REMARKS

Summary of the Office Action

Claims 1-5, 7-9, 11-13, 15, 16, 18, 19 and 21 are rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Patent 6,593,057 (Kita) in view of U.S. Patent 6,821,704 (Ide) or U.S. Patent 6,457,413 (Loccufier).

Discussion

The Office Action acknowledges that Kita teaches that the particles are from 0.005 to 0.1 microns, or a string of up 0.4 microns length. However, the Office Action asserts that Kita is not limited to these sizes. The Office Action points to Loccufier and Ide and states that aluminum oxide particles or oxide particles of other metals having a particle size of up to 10 microns and 0.5 microns, respectively are taught by the secondary references. The Office Action contends that the references teach that it is known in the art to have similar particles of a size larger than 0.4 microns. The Office Action contends that it would have been obvious to one of ordinary skill in the art to prepare the material of Kita choosing to prepare the material having larger particles in view of the alleged teachings of Ide and Loccufier with a reasonable expectation of achieving a material having improved impression capacity.

In response to Applicants' response that Kita's disclosure is limited to 900 mg/m^2, the Office Action states that Applicants' response is based on the alleged fact that Kita employs that amount in "a few" of its examples. The Office Action alleges: "the reference is not limited to that amount as it clearly teaches that the particles should be added to the layer in an amount of 80% or less, preferably 40% or less of the solid content of the layer, which appears to fall within the instantly claimed amount."

Applicants respectfully traverse the rejection for the following reasons.

The particle size of 0.005 to 0.1 microns disclosed by Kita at col. 6, lines 1-24 relates to the preferred size of the colloidal oxide or hydroxide of silica present in the water-receptive layer. Kita does not use the word "preferably" for other particle sizes: the particle size of colloidal spherical particles arranging themselves in the form of a pearl-necklace is 10 to 50 nm (0.01 to 0.05 microns). The row length of the necklace is 50 to 400 nm (0.4

microns) but this is not the particle size. It is clearly described that the particle size is 10 to 50 nm (or 0.01 to 0.05 microns). The plumous particle of oxide or hydroxide of aluminum is of the size of 100 nm x 100 nm (or 0.1 x 0.1 microns). These particle sizes are not taught as a preferred embodiment; the word "preferably" is not attached to these sizes (except in the imagination of the Office Action). On the contrary, the teaching of Kita is not expansive. Thus, the teaching of aluminum oxide or hydroxide particles is limited only to 0.1 x 0.1 microns. The Office Action is improperly relying upon the length of the necklace (0.4 microns), improperly ignores the actual particle size of the pearls (which is only 0.01 to 0.05 microns), and improperly adds "preferably" to 0.4 microns (see page 3, last line of first paragraph: "string of up to 0.4 microns preferably, the reference is not limited thereto").

As the Office Action improperly reads the length of the necklace to represent each particle size, the Office Action is in error. It has failed to properly determine the scope and content of the prior art.

Further, the Office Action improperly reads "preferably" into Kita's length of the pearl necklace, its conclusion that "the reference is not limited thereto" is flawed. There is no basis for such a reading in the prior art. Again, the Office Action has failed to properly determine the scope and content of the prior art.

Accordingly, the rejection is erroneous inasmuch as the Office Action failed to make a *prima facie* case for obviousness. The rejection should therefore be withdrawn.

Further, those of ordinary skill in the art would rather choose smaller particles for use in polymer systems to improve properties such as reinforcing, abrasion resistance, hardness, modulus, tear resistance and tensile strength; see, e.g., Kirk-Othmer Encyclopedia, vol. 10, pp. 750-754, particularly the highlighted portions (Attachment 1). It is evident for the skilled person that the film strength is related, among others, to tensile strength, tear resistance and modulus, and that the impression capacity is related, among others, to abrasion resistance, hardness, tear resistance, and modulus. Therefore, there is no motivation to use larger particles as in the presently claimed invention. In view of the common general knowledge that smaller particles are preferred, there is no reasonable expectation of success in arriving at the presently claimed invention by employing larger particles, the disclosures of Loccufier and Ide notwithstanding. Applicants have proceeded against the conventional wisdom in the

art, which is a strong indication of non-obviousness. Accordingly, the present claims are inventive, and the rejection should be withdrawn.

Moreover, the Office Action asserts that Kita is not limited to the amount of 900 mg/m^2. Firstly, Kita does not employ this amount only in a few of its examples, as the Office Action mischaracterizes. Kita in fact uses this amount of 900 mg/m^2 in all of its examples. Accordingly, the Office Action is in error.

Secondly, Kita fails to disclose any other amount at all. There is no disclosure in the description about the amount of these particles in the water-receptive layer. The only indications about the particle size of particles in the water-receptive layer are found in the examples, included the comparative examples, which all demonstrate that an amount of 900 mg/m^2 of these particulates is used in the water-receptive-layer, namely:

- Examples 1 to 3 and Comparative Examples 1 to 3:

Coating Solution B-1 for Water-Receptive Layer contains 3 g of Methanol silica (produced by Nissan Chemical, a colloid comprising a methanol solution containing 30 wt% of silica particles having a particle size of 10 to 20 nm) → this amount corresponds in the layer as 900 mg/m^2;

- Example 4:

Coating Solution B-2 for Water-Receptive Layer contains 4.5 g of Glascsa 401 which is a 20 wt% methanol colloid solution comprising $ZrO_2.SiO_2$ produced by Nichiban Kenkyusho → this amount corresponds in the layer as 900 mg/m^2;

- Example 5:

Coating Solution B-3 for Water-Receptive Layer contains 3 g of Methanol silica as defined in Coating Solution B-1 (see above in Example 1);

- Example 5:

Coating Solution B-1 for Water-Receptive Layer as defined above in Example 1.

The foregoing clearly shows that the only teaching that Kita contains as to the amount of the particles in the water-receptive layer is 900 mg/m^2. Accordingly, the Office Action's assertion that the Kita reference is not limited to this particle size is erroneous, and the Office Action must be withdrawn for that reason alone.

The amount of particles required by Kita far exceeds the amount required by the claims (5 to 200 mg/m^2), and the other cited references fail to disclose or suggest the use of relatively lower amounts of particles as recited in the claims. It is thus respectfully submitted that the obviousness rejection should be withdrawn for this additional reason.

The Office Action continues to make additional errors. After making the erroneous assertion that Kita is not limited to 900 mg/m^2, the Office Action goes on to state that Kita "clearly teaches that the particles should be added to the layer in an amount of 80% or less, preferably 40% or less or the solid content of the layer, which appears to fall within the instantly claimed amount." However, Applicants respectfully submit that this argument is erroneous as it is premised on an incorrect reading of the reference. See col. 3, lines 23-36, particularly: "In the *ink-receptive layer*, the ratio of the fine powder added is preferably 80% by weight or less, more preferably 40% by weight or less, based on the solid content of the *ink-receptive layer*." (Emphasis added).

It is clear that Kita is referring to the ink-receptive layer, and *not* the water-receptive layer. These two layers are not identical, as they have different composition and properties. The amount of the fine powder in the ink-receptive layer has nothing to do with the amount of the colloidal particles in the water-receptive layer. The Office Action is bootstrapping the amount from the ink-receptive layer with an asserted particle size in the water-receptive layer. In other words, the Office Action is picking, choosing, and combining elements at will. This is a clear violation of the law. A reference cannot be misinterpreted to suit the needs of the Office Action. The Office Action has again failed to properly determine the scope and content of the prior art. Accordingly, the Office Action has failed to make a prima facie case for obviousness. Therefore, the rejection is erroneous and should be withdrawn.

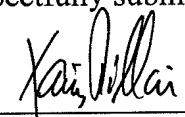
Additionally, there is no motivation to use smaller amounts of the particles; see, for example, Attachment 1, page 752, paragraph 3, wherein it is taught that hardness is increased with high loadings and paragraph 8, wherein it is taught that the tensile strength increases

with increased loading. Applicants have proceeded against the conventional wisdom in the art. Accordingly, the rejection is erroneous, and the rejection should be withdrawn.

Conclusion

A favorable decision is solicited. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



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